



VIRGINIA

COVID-19 Update July 8th, 2021

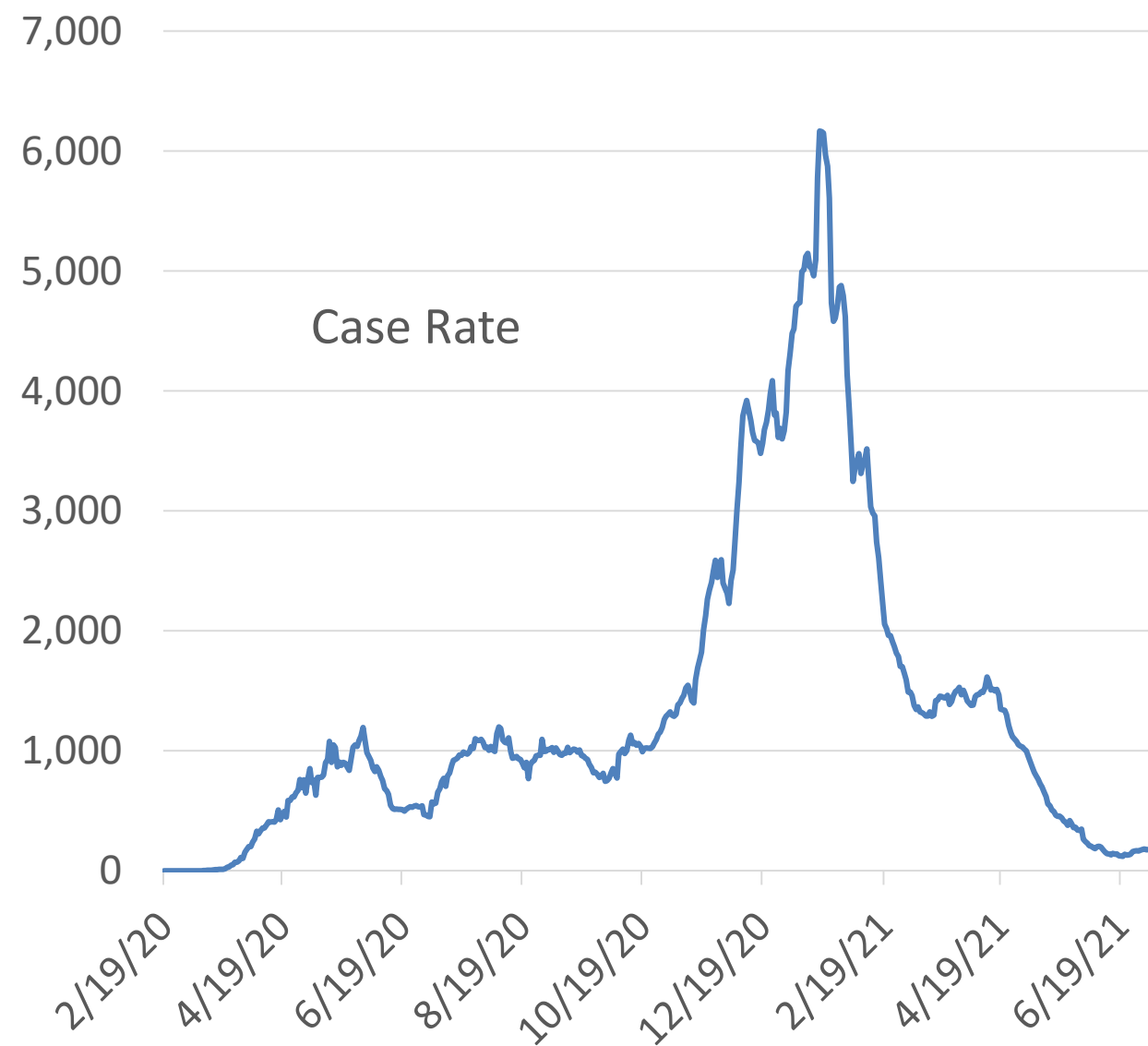
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A team of RAND researchers was asked by the Commonwealth of Virginia to review available information on COVID-19 models of the Commonwealth to determine the strengths and weaknesses of each model and their relevance to decisionmaking. The information in this presentation is intended to keep policymakers abreast of the latest findings of the research team.

This research was sponsored by the Commonwealth of Virginia and conducted by the RAND Corporation. RAND is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest. For more information, visit www.rand.org.



Bottom Line Up Front



Confirmed cases have increased from last week to 178 per day (+5%)

- This is 85 percent lower than the mid-March low of 2021 and 60 percent below the summer lows of 2020

COVID hospitalizations have decreased to 215 (-19%)

Vaccination is continuing to increase with at least 51 percent of the population fully vaccinated

- With the current trends, community immunity from vaccination will not be reached statewide before the fall

Case rates are below the lows of 2020, and the trend is for a sustained decline

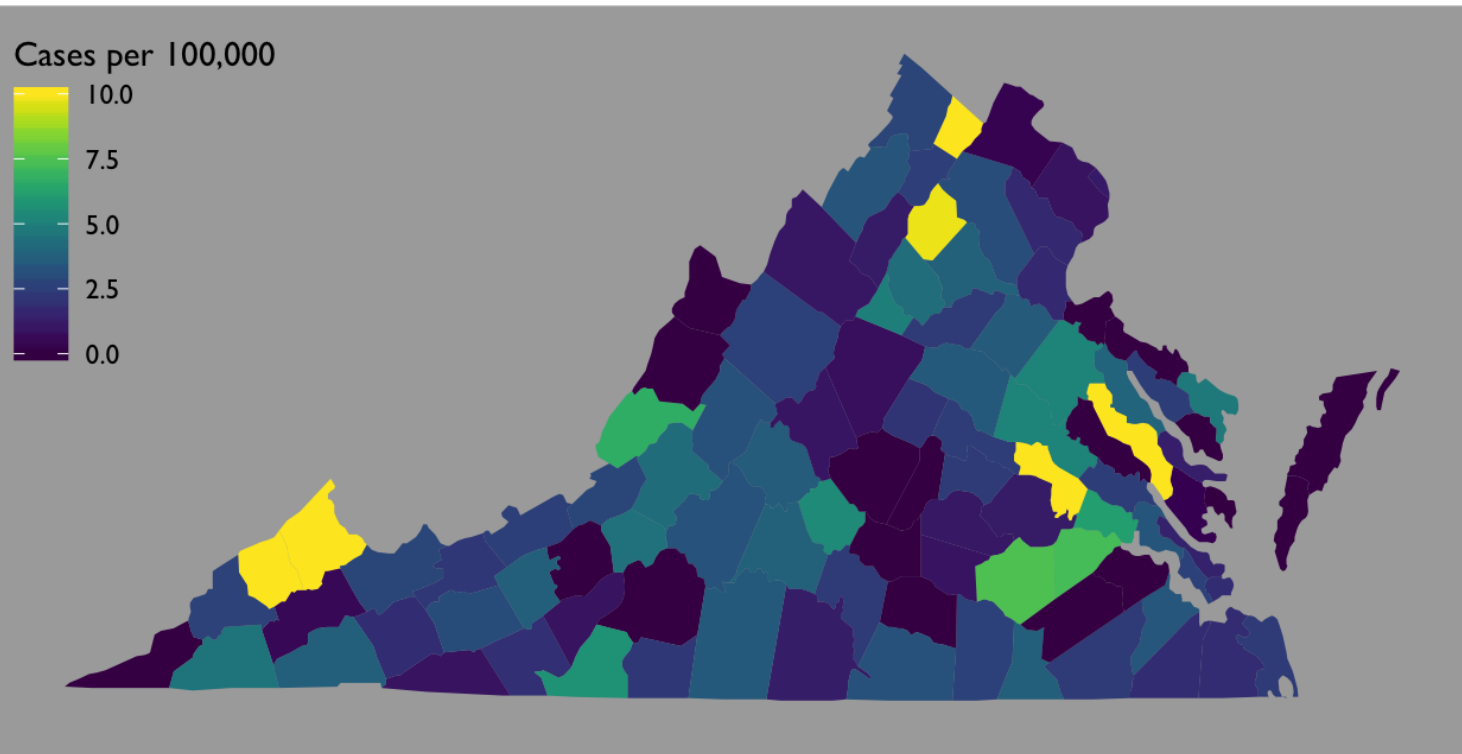
- The pandemic is not over, but many parts of Virginia are ready to enter the recovery phase, which entails activities to promote the return to normal
- However, given the continued threat of COVID variants, preparation activities for future phases should be ongoing



Cases are relatively low across the Commonwealth

CASE COUNT

Source: VDH



Yellow indicates at least 10 cases per 100,000

Case levels have drifted lower across the Commonwealth

- 5 percent of counties have more than 10 cases per 100,000 (390,000 Virginians live in these counties)
- 88 percent of counties have fewer than 5 cases per 100,000 (7,862,000 Virginians live in these counties)

These data were updated July 7th and represent a seven-day average of the previous week

When cases are this low, even the weekly values can be volatile

Case levels for neighboring states remain low

Over the last 7 days, Virginia had 2.1 new confirmed cases per day per 100,000 (+6% from last week)

Very high case loads (>20):

High case loads (10-20):

Lower case loads (<10): None

- Kentucky (2.9 new cases per 100k, -15% from last week)
- West Virginia (1.9, -39%)
- North Carolina (1.4, -60%)
- Tennessee (1.2, -29%)
- Maryland (1.1, +30%)
- District of Columbia (1.1, -19%)

These data were updated July 7th and represent a seven-day average of the previous week



51 percent of Virginians are fully vaccinated, and an additional 8 percent are partially vaccinated

Age	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80+	Total*
Fully Vaccinated	0	322,171	508,215	581,792	611,922	712,499	717,141	484,566	229,863	4,373,518
% Full	0.0%	29.3%	44.0%	49.6%	56.8%	63.3%	73.4%	78.9%	73.8%	51.2%
Partially Vaccinated	0	95,719	103,072	103,202	95,696	101,260	89,901	54,231	29,983	695,027
% with Partial	0.0%	8.7%	8.9%	8.8%	8.9%	9.0%	9.2%	8.8%	9.6%	8.1%
Confirmed Cases	33,099	75,079	131,849	111,354	99,913	97,715	66,398	35,590	25,164	681,599
% Confirmed Cases	3.3%	6.8%	11.4%	9.5%	9.3%	8.7%	6.8%	5.8%	8.1%	8.0%

*The total includes those without reported age information

Source: VDH, July 7th

Vaccinations have slowed substantially from the peak

- Over the last seven days, Virginia has averaged 12,977 doses per day (-19% from last week and -83% from April)
- At this pace, the vaccination levels needed for community immunity will not be reached across the Commonwealth before September of 2021

A Kaiser Family Foundation poll from June 30th indicated hesitancy has continued to decline

- There is a small but consistent portion of the population resistant to receiving a vaccine (roughly 20 percent)
- Half of adults are in a fully vaccinated household and one quarter are in a fully unvaccinated household
- Half of the unvaccinated adults report that there is no need to be vaccinated because the case rates are so low
- The most common reason people provide for being hesitant is that the vaccine is too new

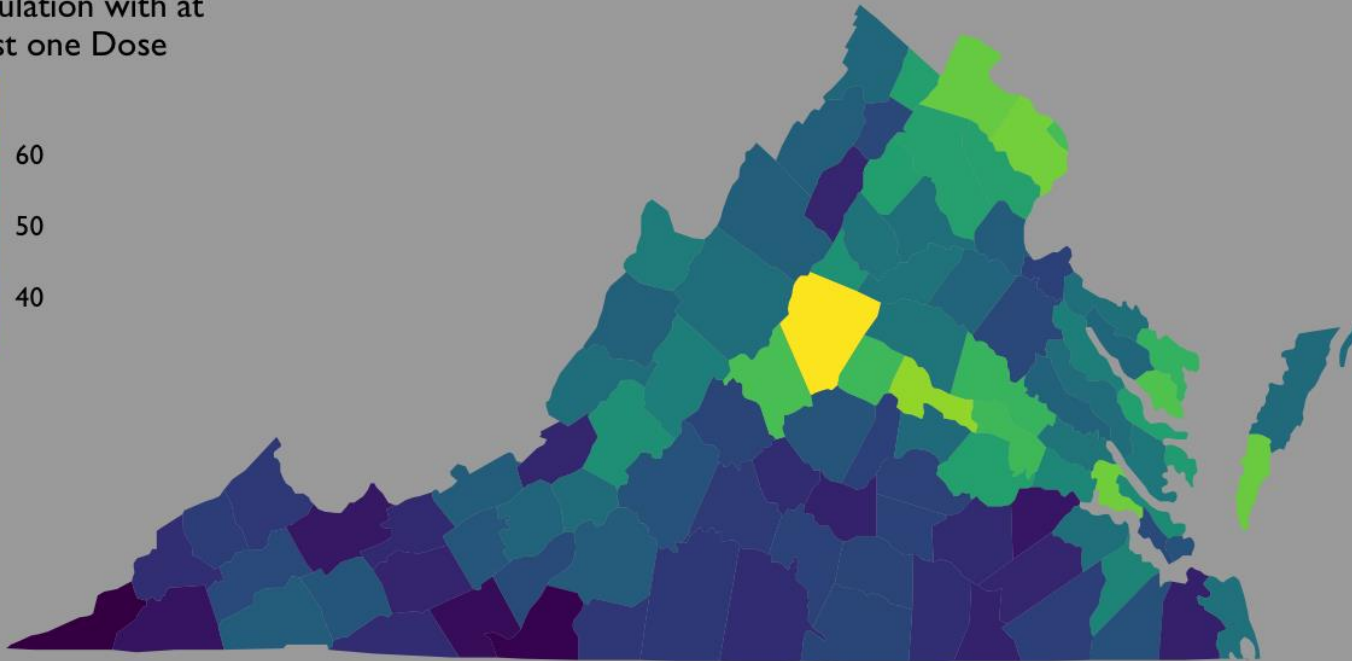


Vaccination rates are uneven across the Commonwealth

Share of the Total Population with at Least One Dose

Source: VDH

Percent of the Total
Population with at
Least one Dose



The population with at least one dose varies by county

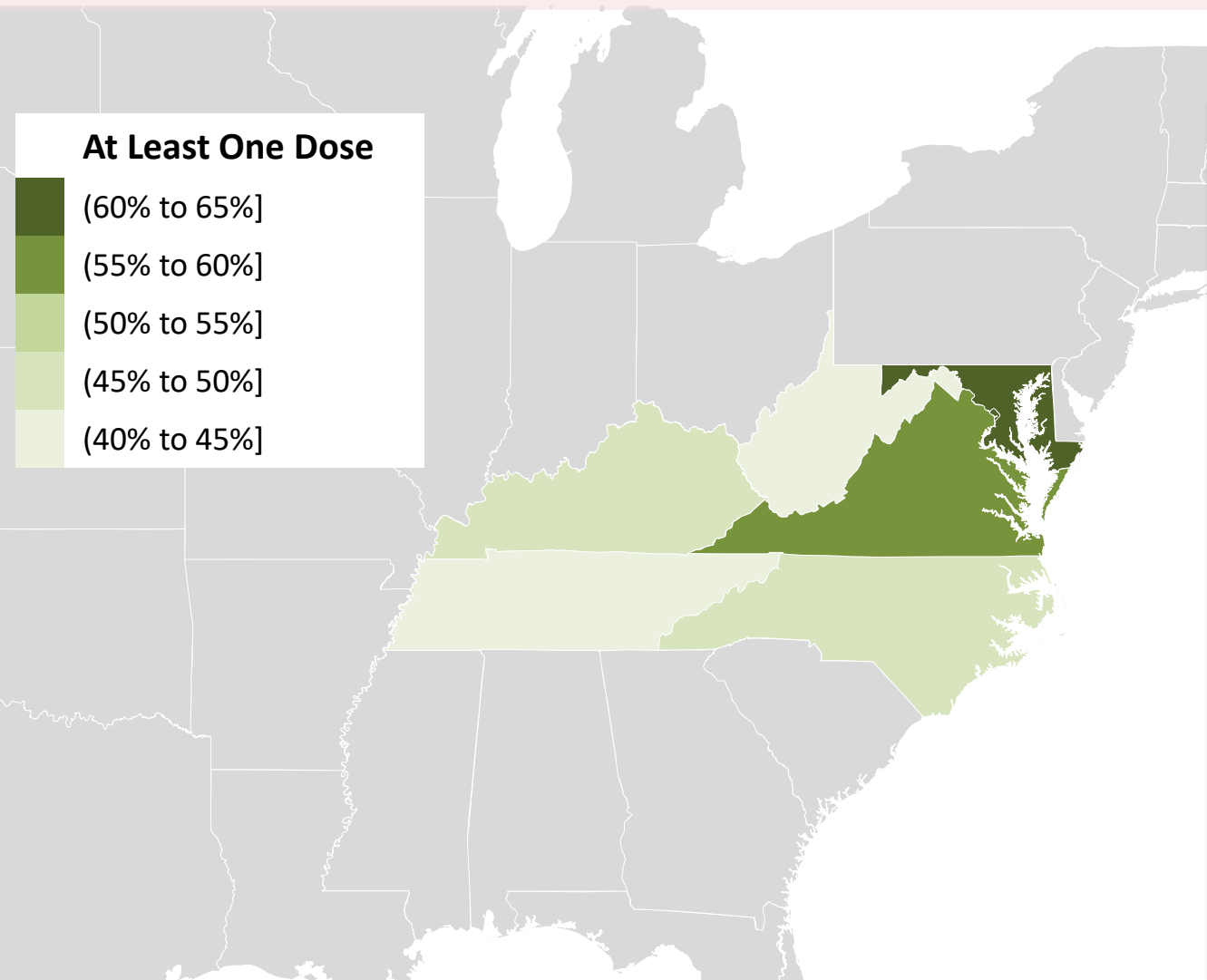
- 10 counties (1.8 million Virginians) have more than 60 percent of their total population vaccinated
- 41 counties (4.2 million Virginians) have more than 50 percent of their total population vaccinated
- 23 counties (797,000 Virginians) have less than 40 percent of their total population vaccinated

Community immunity is estimated to require a vaccination rate around 70 to 80 percent for the total population

These data were updated July 7th



Vaccination rates among neighboring states vary substantially



	Partially Vaccinated*	Fully Vaccinated*
Nationwide	7.5%	47.5%
D.C.	8.8%	53.0%
Kentucky	5.9%	44.0%
Maryland	5.8%	56.6%
North Carolina	6.8%	42.2%
Tennessee	4.9%	37.7%
Virginia**	7.1%	52.5%
West Virginia	6.4%	37.5%

* Total population, includes out-of-state vaccinations
**Differs from previous slide because all vaccination sources (e.g., federal) are included

Source: <https://covid.cdc.gov/covid-data-tracker/#vaccinations>

These data were updated July 7th

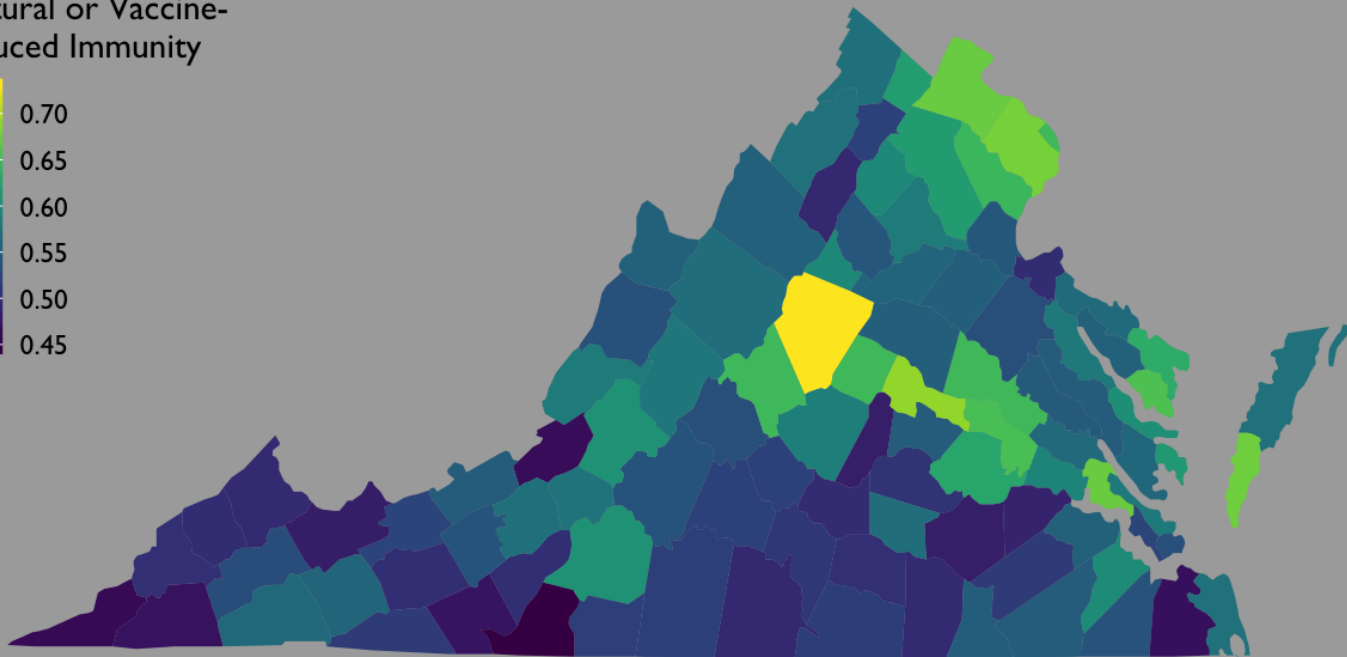
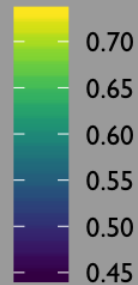


Immunity can be gained by prior infection or vaccination

Estimated Share of the Total Population with Immunity from at Least One Dose or Prior Infection

Source: VDH

Population with
Natural or Vaccine-
Induced Immunity




These data were updated July 7th

These estimates are based on VDH case data and vaccination rates

- This assumes people with a prior COVID infection are equally likely to get vaccinated

The distribution of immunity is more evenly distributed than the vaccination levels because vaccination levels are negatively correlated with cases

- Roughly, 64 percent of the total population has some level of immunity
- The county level of immunity ranges from 45 percent to 73 percent



Discussion and Questions